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Al-Dhahir et al.

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[54] METHOD AND APPARATUS FOR
FILTERING DIGITAL TELEVISION SIGNALS

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233; H04N 5/21, 5/213

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[57] ABSTRACT

A system for filtering digital television signals is provided. The system comprises a generator for providing a first data sequence to a private data packetizer, and a transmitter for transmitting the packetized first data sequence in a data channel of a digital television signal. The system further includes a receiver for receiving the digital television signal and recovering the first data sequence. The receiver includes a channel estimator for providing an estimate of channel characteristics, such as estimated channel impulse estimate and estimated noise variance. The receiver further includes an adaptive equalizer filter having an input for receiving the digital television signal and an input for receiving adaptive filter coefficients. The receiver further includes a coefficient processor for calculating adaptive filter coefficients based on the channel estimate, and providing the adaptive filter coefficients to the adaptive equalizer filter. The digital television signal is thus filtered to remove undesired channel effects.

24 Claims, 7 Drawing Sheets

